## Working Group Two Synopsis

- **Organic Electronics - technical definition**
  - Conductive devices
  - *Emitters*
  - *Insulators*
  - *Resists*
  - *Transmit light*
  - *Solar cells/?? (reactors or detectors or who knows??)*
  - *Substrates, packaging*
- **Issues**
  - *Processing-Manufacturing-Materials Performance*



## Attributes

- **Unique properties (competitive advantage) of Organic Electronics**
  - *Potential Low Cost - disposable*
  - *Flexible Substrates*
  - *Low Temperature*
  - *Large Area*
  - *Low Initial Investment*
  - *3D Forming*
  - *New Manufacturing (e.g. printing)*

## Technology Needs and Killer Applications

- **Technology Needs to Enable Business Success**
  - *Good solvent based transistor*
  - *Effective low cost manufacturing processes and tools*
  - *Light efficient device*
  - *Packaging and encapsulation*
- **Killer Applications**
  - *Display: publishing, entertainment, computer outputs, automotive*
  - *Lighting*
  - *Optical Interconnection - communications, computing*
  - *Electronics - circuit boards, IC's, switches, connectors, packaging*
  - *Disposable Electronics - smart cards, medical*



## When? Cautions?

- **Timing: 3-5 Years in...**
  - *components and device levels*
  - *Stamping/printing/coating*
  - *Enabling applied basic research*
  - *Low-cost flexible electronics in optical interconnects*
- **Caution**
  - *Displays provide technical challenges but face difficult competition.*
  - *One approach is niche markets.*
  - *OLEDs are "exciting"*